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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,919	09/18/2003	Janusz Blaszczyk	130109.484	6477

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EXAMINER	
CREPEAU, JONATHAN	
ART UNIT	**PAPER NUMBER**
1745	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,919	BLASZCZYK ET AL.	
	Examiner	Art Unit	
	Jonathan S. Crepeau	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14-23* is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office action addresses claims 1-23. Claims 14-23 remain allowed. Claims 1-12 are newly rejected under 35 USC 103 as necessitated by amendment and claim 13 remains rejected for substantially the reasons of record. Accordingly, this action is made final.

Claim Rejections - 35 USC § 103

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (U.S. Pre-Grant Publication No. 2002/0022171).

The reference is directed to a fuel cell system comprising a multiple jet ejector (30) having a suction inlet (35) fluidly connected to recirculated hydrogen from the fuel cell (see Fig. 2). Pressurized hydrogen enters through first and second motive inlets (63, 62) and flows through respective nozzles and diffusers (51, 41, 54, 44). Check valves (57, 47) are located at the ends of the diffusers. As disclosed in [0017], the nozzles are designed for different flow regimes (e.g., high-flow and low-flow). A pressure control means (18) controls the pressure of the incoming hydrogen reactant stream. A valve (60) controls the flow to each nozzle of the ejector. This valve is capable of being operated in the manner recited in claims 1 and 13.

The reference does not expressly teach that the ejector comprises an additional ultra-low-flow nozzle and diffuser as recited in claim 6. The reference further does not teach that the

system comprises a pressure regulator and that the valve is a solenoid valve, as recited in claims 1 and 13.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the addition of an "ultra-low-flow" nozzle and diffuser to the ejector of Saito et al. would represent the mere duplication of parts that is not sufficient to distinguish over the reference. Generally, a duplication of parts is not considered to be patentably distinguishable unless a new or unexpected result is shown (MPEP 2144.04). As such, the addition of a third nozzle and diffuser, i.e., an "ultra-low-flow" nozzle and diffuser, to the ejector of Saito et al. would be obvious to the skilled artisan.

In addition, regarding the pressure regulator recited in claims 1 and 13, this element would be obvious to a skilled artisan as a means of controlling the pressure of the hydrogen stream. Saito et al. disclose a pressure control means (18) but appear to be silent as to its exact structure. The use of a regulator as the control means would be obvious since these are well-known components for achieving the desired purpose. Further, as noted above, the reference teaches a valve (60) controlling the flow to each nozzle of the ejector. The use of a solenoid as a means of actuating this valve would also be obvious to the skilled artisan, as solenoid-actuated valves are widely used in industry. As such, the claimed subject matter would be rendered obvious to the skilled artisan.

Response to Arguments

3. Applicant's arguments filed January 12, 2007 have been fully considered but they are not persuasive. Claims 1 and 13 now recite that "during operation of the fuel cell system, the first motive flow is directed to only the low-flow motive inlet when the first solenoid valve is closed and the first motive flow is directed to both the low-flow and high-flow motive inlets when the first solenoid valve is open." It is submitted that the valve (60) of Saito is at least capable of functioning in this manner, and thus meets the claim language. Applicant states that during operation, the flow of Saito goes through either one nozzle or the other. This assertion is well-taken; however, it is submitted that the new claim language is directed to how the apparatus is operated rather than to structural details of the apparatus, and since the system of Saito is capable of being operated in the claimed manner, it meets the claim (MPEP 2114). In particular, in Figures 2 and 3 of Saito, the valve 60 is shown as being seated completely to the left or completely to the right. However, it is submitted that although not expressly shown by the reference, the valve can be positioned such that it does not touch either side wall, thereby allowing fluid to flow to both motive flow inlets. This would correspond to the "open" position of the valve recited in claims 1 and 13. Therefore, although the Examiner agrees in principle that the apparatus of Saito is not operated such that fluid flows through both inlets simultaneously, it at least has the *capability* of being operated this way, and as such is sufficient to meet the claim language.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JY

Jonathan Crepeau
Primary Examiner
Art Unit 1745
February 15, 2007